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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/609,399	07/03/2000	Kohji Kameda	R2184.0078/P078	4329

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EXAMINER

VU, TRISHA U

ART UNIT	PAPER NUMBER
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2189

DATE MAILED: 04/07/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/609,399

Applicant(s)

KAMEDA, KOHJI

Examiner

Trisha U. Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07-03-00 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. Claims 1-9 are presented for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 5, and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Abramson et al. (6,131,135) (hereinafter Abramson).

As to claim 1, Abramson teaches an arbitration method of a bus bridge (Bus Interface Unit 140 and USB arbiter 145) which interfaces a primary-side bus (PCI Bus 130) with a plurality of secondary side buses (buses from USB Host Controller 1 and USB Host Controller 2), the primary side bus being a local bus in a system and the secondary-side buses being external buses connected to the system (Fig. 1), the bus

bridge supporting a plurality of kinds of operations one of which is an operation related to a serial bus in accordance with IEEE1394 (USB) (Fig. 1), the arbitration method comprising the step of giving an access right equally to each of the secondary-side buses (rotating arbitration), when access demands to the primary-side bus are lodged from more than two of the secondary-side buses at the same time, by not giving a priority to any one of the secondary-side buses (col. 6, claim 8).

As to claim 5, Abramson further teaches changing an order of giving the access right (col. 6, claim 8 wherein it is inherent in the rotating arbitration that the order of giving the access right is changed in each arbitration).

As to claim 8, Abramson teaches an arbitration system, comprising: a bus bridge (Bus Interface Unit 140 and USB arbiter 145); a primary side bus (PCI Bus 130); and a plurality of secondary side buses (buses from USB Host Controller 1 and USB Host Controller 2) coupled to the primary side bus via said bus bridge (Fig. 1), wherein the bus bridge is configured to give access rights equally to each of the secondary side buses (rotating arbitration), when access demands to the primary side bus are lodged from more than two of the secondary side buses at the same time, by not giving a priority to any one of the secondary side buses (col. 6, claim 8).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2, 4, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abramson et al. (6,131,135) (hereinafter Abramson) as applied to claims 1, 5, and 8 above and further in view of Tang et al. (6,298,370) (hereinafter Tang).

As to claims 2 and 9, Abramson further teaches that one of the secondary-side buses is the serial bus in accordance with IEEE1394 (USB) (Fig. 1), there can be more than two secondary side buses (the arbiter can be configured to control two or more host controllers) (col. 5, lines 18-20). However, Abramson does not explicitly disclose the rest of the secondary-side buses are card buses. Tang teaches card-buses (col. 16, lines 1-16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement card-buses as suggested by Tang for the rest of the secondary-side buses in the system of Abramson to fit with other system, also card-buses are well-known standard in the art.

As to claim 4, Abramson further teaches performing a first arbitration operation between the serial bus and at least two of the card-buses when access demands are lodged from the serial bus and also from the at least two of the card buses (rotating arbitration); and performing a second arbitration operation between the at least two of the card buses when an access right is to be given to only one of the at least two of the card buses (rotating arbitration) (note col. 6, claim 8).

4. Claims 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abramson et al. (6,131,135) (hereinafter Abramson).

As to claim 3, the argument above for claim 1 applies. Abramson further teaches giving a priority right to the serial bus in accordance with IEEE1394 (from one of the USB Controllers); and maintaining the access right given to the serial bus in accordance with IEEE1394 when an access demand is lodged from other secondary-side buses (fixed arbitration scheme) (col. 5, lines 31-34). However, Abramson does not explicitly disclose other secondary-side buses being buses other than the bus in accordance with IEEE1394. Official Notice is taken by examiner that implementing different kinds of buses (e.g. PCI buses) other than the one in accordance with IEEE1394 is well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement other secondary buses to be buses other than the one in accordance with IEEE1394 to fit with other system(s), e.g. PCI buses can be implemented to provide faster data transfer.

1. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abramson et al. (6,131,135) (hereinafter Abramson) in view of Quackenbush et al. (6,163,824) (hereinafter Quackenbush).

As to claim 6, the argument above for claim 1 applies. However, Abramson does not explicitly disclose an arbitration scheme which gives a highest priority to the primary side bus when the primary-side bus lodges an access demand to the secondary-side buses irrespective of a condition of arbitration between the secondary side buses. Quackenbush discloses an arbitration scheme which assigns highest priority to a device (bridge 38 in processor side 16A) irrespective of a condition of arbitration between the other devices

(controllers 42A-42H) (note col. 4. lines 42-56). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the arbitration scheme as suggested by Quackenbush to give a highest priority to the primary side bus irrespective of a condition of arbitration between the secondary side buses in the system of Abramson to help minimize the access latency on the PCI local bus (note col. 4. lines 54-56).

As to claim 7, Abramson teaches an arbitration method of a bus bridge (Bus Interface Unit 140 and USB arbiter 145) which interfaces a primary-side bus (PCI Bus 130) with a plurality of secondary-side buses (buses from USB Host Controller 1 and USB Host Controller 2), the primary side bus being a local bus in a system and the secondary-side buses being external buses connected to the system (Fig. 1), the bus bridge supporting a plurality of kinds of operations one of which is an operation related to a serial bus in accordance with IEEE1394 (USB) (Fig. 1). . However, Abramson does not explicitly disclose an arbitration scheme which gives a highest priority to the primary-side bus when the primary-side bus lodges an access demand to the secondary-side buses irrespective of a condition of arbitration between the secondary side buses. Quackenbush discloses an arbitration scheme which assigns highest priority to a device (bridge 38 in processor side 16A) irrespective of a condition of arbitration between the other devices (controllers 42A-42H) (note col. 4. lines 42-56). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the arbitration scheme as suggested by Quackenbush to give a highest priority to the primary side bus irrespective of a condition of arbitration between the secondary side buses in the

system of Abramson to help minimize the access latency on the PCI local bus (note col. 4. lines 54-56).

Response to Arguments

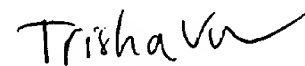
Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trisha U. Vu whose telephone number is 703-305-5959. The examiner can normally be reached on Mon-Thur and alternate Fri from 7:00am to 4:30pm.

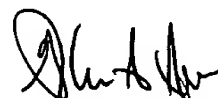
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 703-305-4815. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



Trisha U. Vu
Examiner
Art Unit 2189

uv
April 3, 2003



Glenn A. Auve
Primary Patent Examiner
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